

**Claims**

1. A capacitive acceleration sensor comprising at least one pair of electrodes, such that the pair of electrodes comprises a movable electrode responsive to the acceleration, at least one stationary electrode, and at least one isolator protrusion, wherein the isolator protrusion being coated with a diamond-like DLC coating.
2. The capacitive acceleration sensor of Claim 1, wherein the isolator protrusion has a two-layer composite structure, wherein the base layer material is easy to deposit, which base layer in turn is coated with a top layer of the diamond-like DLC coating.
3. The capacitive acceleration sensor of Claim 2, wherein the diamond-like DLC coating of the top layer extends also onto the sides of the isolator protrusion.
4. The capacitive acceleration sensor of Claim 3, wherein the diamond-like DLC coating of the top layer also extends beyond the edges of the isolator protrusion onto the area of the stationary electrode.
5. The capacitive acceleration sensor of Claim 2, wherein the base layer is essentially thicker than the top layer.
6. The capacitive acceleration sensor of Claim 2, wherein the base layer consists of oxide.
7. The capacitive acceleration sensor of Claim 1, wherein the pair of electrodes of the acceleration sensor comprises several isolator protrusions.

8. The capacitive acceleration sensor of Claim 1, wherein the isolator protrusions are positioned on both sides of the movable electrode.

9. The capacitive acceleration sensor of Claim 1, wherein the isolator protrusions are positioned on the stationary electrode.

10. The capacitive acceleration sensor of Claim 1, wherein the isolator protrusions are positioned on the movable electrode.

11. The capacitive acceleration sensor of Claim 1, wherein the diamond-like DLC coating of the isolator protrusion is grown by ion beam deposition.

12. The capacitive acceleration sensor of Claim 1, wherein the diamond-like DLC coating of the isolator protrusion is grown by plasma enhanced chemical vapour deposition.

13. The capacitive acceleration sensor of Claim 1, wherein the diamond-like DLC coating of the isolator protrusion is grown by arc discharge deposition.

14. The capacitive acceleration sensor of Claim 1, wherein the quality of the diamond-like DLC coating film of the isolator protrusion has been improved by increasing the proportion of bonds  $sp^3/sp^2$ .

15. The capacitive acceleration sensor of Claim 1, wherein the quality of the diamond-like DLC coating film of the isolator protrusion has been improved by reducing the hydrogen content of the diamond-like DLC coating film.